

Notice of Allowability

Application No.

10/630,780

Examiner

Eric M Gibson

Applicant(s)

SHIMOMURA, NORIKO

Art Unit

3661

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 31 July 2003.
2. ☒ The allowed claim(s) is/are 1-19.
3. ☒ The drawings filed on 31 July 2003 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date 11/18/03
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

REASONS FOR ALLOWANCE

Claims 1-19 are allowed.

The following is an examiner's statement of reasons for allowance:

Per independent claims 1, 18, and 19, the prior art does not teach or reasonably suggest in combination the vehicle tracking system and method including a vehicle tracking processing section for determining a position and an enlargement/reduction ratio for a portion of a second input image that provides a maximum correlation value between the portion of the second input image and a reference template with respect to a remote vehicle, while enlarging or reducing the portion of the second input image in consideration of a change in size of the remote vehicle in the second input image, a processing result outputting section for determining a position of the remote vehicle relative to the vehicle based on the position and the enlargement/reduction ratio of the portion of the second input image that provides the maximum correlation value, and a reference template updating section for normalizing the vehicle image and the reference template, calculating a dispersion of at least one pixel of the reference template with respect to a pixel at a corresponding position in the vehicle image, and updating the reference template by deleting at least one pixel when the dispersion of the pixel is equal to or greater than a threshold value as claimed.

Claims 2-17 serve to further define the invention of claim 1 over the prior art.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably

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accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Saka et al. (US006590521B1) teaches an object recognition system. Takenaga et al. (US006191704B1) teaches a run environment recognizing apparatus. Maekawa (US005530771A) teaches an image tracking device and image tracking method. Karasudani (US005369590A) teaches an inter-vehicle distance detecting device. Irie (US005257022A) teaches a method and apparatus for following a vehicle. Le Parquier et al. (US005195144A) teaches a process and device for estimating the distance between a stationary object and a moving vehicle. Asayama (US005161632A) teaches a tracking control device for a vehicle.

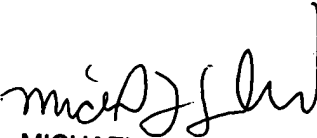
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric M Gibson whose telephone number is (703) 306-4545. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Black can be reached on (703) 305-8233. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

EMG



MICHAEL J. ZANELLI
PRIMARY EXAMINER